# Sample -GEN AI PROJECT PHASE 1 SUBMISSION DOCUMENT

## Phase 1: Proposal & Idea Submission

### 1. Project Title:

Next Sentence Prediction using Generative AI

### 2. Domain:

Generative AI | NLP | Sentence Completion

### 3. Problem Statement:

Understanding and generating coherent text is a critical challenge in NLP. The ability to predict the next sentence based on context is fundamental to building intelligent applications such as chatbots, content generators, and summarizers. The project aims to build a Gen AI-based system that can predict or suggest the most appropriate next sentence for a given input.

### 4. Proposed Solution:

This project will implement a Next Sentence Prediction model using pre-trained Generative AI models. The system:  
- Takes a user-provided paragraph or sentence as input.  
- Uses a language model to generate one or more plausible next sentences.  
- Ranks or filters the suggestions based on coherence and relevance.  
- Can be extended to story generation or intelligent auto-completion.

### 5. Objectives:

- To build a working prototype that predicts the next sentence using Gen AI models.  
- To experiment with various LLMs (like GPT, BERT with fine-tuning for NSP).  
- To create an interactive interface for testing and validating predictions.

### 6. Expected Outcome:

- A simple NLP application that accurately predicts the next sentence.  
- A demo webpage or app that takes a sentence as input and returns the next predicted sentence(s).  
- Optional: Evaluation module that checks for grammaticality and relevance.

### 7. Tools & Technologies to be Used:

- Python (Primary programming language)  
- Transformers library (by HuggingFace)  
- Pre-trained models: GPT-2, GPT-Neo, or BERT (for NSP baseline)  
- Flask/Streamlit for web interface  
- Jupyter Notebook for experimentation  
- Google Colab / Local GPU for model inference

### 8. References:

- HuggingFace Transformers Documentation  
- Google BERT Research Paper  
- OpenAI GPT Models Documentation  
- NLP Projects on Next Sentence Prediction on GitHub